

REMARKS

This application has been carefully reviewed in light of the Examiner's action dated April 10, 2006. Prior to entry of this response, Claims 1-8, 10-12 and 28-34 were pending. Claim 28 has been amended and Claims 1-8, 10-12, 27 and 29 have been cancelled without prejudice. Applicant submits this response places the application in condition for allowance and reconsideration and full allowance are respectfully requested.

In the April office action, the Examiner rejected Claims 1-8 and 12 under 35 USC 102(b) as being anticipated by U.S. Patent No. 4,545,396 to Miller, et al. (hereafter "Miller"). The Examiner also rejected Claims 10, 11 and 27 under 35 USC 103(a) under various combinations of Miller, U.S. Patent No. 5,366,159 to Childers (hereafter "Childers") and U.S. Patent No. 4,917,304 to Mazzei (hereafter "Mazzei"). Claims 1-8, 110-12 and 27 have been cancelled. Accordingly, Applicant submits these rejection are obviated.

The Examiner also rejected claims 28-34 under 35 USC 103(a) as and patentable over Miller in view of Childers. This rejection is respectfully traversed.

As presented, independent Claim 28 is directed towards liquid delivery system for horticultural applications. The system includes a controller device that is electronically connectable to a zone watering control system. The controller is operative to generate and transmit fluid control signals to selectively control the flow of a pressurized fluid to a plurality of fluid delivery zones. The controller is also operative to generate injection pulses to selectively control the injection of a predetermined number of slugs of liquid additive into the pressurized fluid flow. The predetermined number of slugs is generated in accordance with at least a first criteria associated with the fluid zone control signals. In order to inject the predetermined number of slugs of liquid additive into the pressurized fluid flow, the system includes an injector having a piston and a solenoid connected to the piston. Each injection pulse is operative to actuate the solenoid such that the piston is displaced

to inject one slug of liquid additive into the pressurized fluid flow. The use of injection pulses allows for the controlled injection of predetermined amounts of liquid additive. Further, such injection pulses may be transmitted by the controller at a predetermined rate such that multiple injections of additive may be provided to each fluid delivery zone. See for example specification pg.8 line 8 – 18.

As noted by the Examiner on page 7 of the April office action, Miller fails to disclose a liquid delivery system wherein a controller that is electrically connectable to a zone watering system and selectively controls the flow of pressurized fluid flow with plurality of delivery zones also generates a number of injection pulses that selectively control the injection of a corresponding number of slugs of liquid additive into the pressurized fluid flow where the slugs of liquid additive are injected utilizing an injector having a piston that is controlled by a solenoid. The Examiner goes on to indicate the Childers discloses an additive injector that includes a piston for displacing a slug of liquid additive in response to an injection pulse. An applicant respectfully traverses the characterization of Childers.

As set forth, Childers discloses a garden apparatus that injects fertilizer into the water line. The system of Childers utilizes a water pressure when sprinkler system is in an off mode to compress a control piston. In conjunction with such compression fertilizer fluid is drawn in to the injection piston. Once sprinkler system becomes operative, water pressure that previously compressed the piston drops and a spring connected to the piston the piston is operative to return the piston to an initial position and inject a single slug of fertilizer into the water line. See Col. 2 lines 8-30. A solenoid valve 19 may be selectively opened to permit the single slug of fertilizer within the piston to be injected into the water line. See column to line 44-50. Childers utilizes water pressure to compress a spring actuated piston. Upon a drop in water pressure the spring displaces the piston to inject fluid drawn into the piston into a water line. Childers fails to disclose use of a solenoid that

is connected to a piston and operative to displace piston. Accordingly, Childers fails to disclose a solenoid that is actuated in response to injection pulses in order to inject one slug of a liquid additive in response to each injection pulse.

Stated otherwise, neither Miller or Childers discloses use of piston that is displaced by a solenoid for use in injecting liquid additives into a pressurized fluid flow. Accordingly, the combination of Miller and Childers fails to disclose or suggest the system of claim 28. Accordingly, applicant requests at this rejection be withdrawn.

Supposing that the combination of Miller and Childers did disclose the system of claim 28, Applicant submits such a combination to be improper as there is no suggestion or motivation to make the proposed combination. That is, the Examiner posits that it would be obvious for one skilled in the art to modify the system disclosed by Miller to incorporate displaceable piston assemblies. This assertion of obviousness is respectfully traversed. Initially, applicant notes:

To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the Examiner must present at a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references. (Internal citations omitted) MPEP §706.02(j).

Further:

A statement that modifications of the prior art to meet the claimed invention would have been well within the ordinary skill of the art at the time the claimed invention was made because the references relied upon teach that all aspects of the claimed invention were individually known in the art is not sufficient to establish a prima facie case of obviousness without some objective reason to combine the teachings of the references. (Internal quotations omitted) MPEP 2143.01

Applicant submits, after careful review of Miller and Childers, there is was no objective reason or motivation within the references themselves to make the suggested combination. For the record, Applicant also notes that it is clear that the prior art must teach or otherwise motivate a combination

of prior art references or motivate one skilled in the art to modify such prior art. For example, in the CAFC decision of *In re Anita Dembieczak and Vincent Zinbarg*, 175 F.3d 994, U.S.P.Q.2D (BNA) 1614 (Fed. Cir. 1999) the Court stated:

Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references. See, e.g., *C.R. Bard, Inc. v. M3 Sys., Inc.*, 157 F.3d 1340, 1352, 48 U.S.P.Q.2D (BNA) 1225, 1232 (Fed. Cir. 1998) (describing “teaching or suggestion or motivation [to combine]” as an “essential evidentiary component of an obviousness holding”); *In re Rouffet*, 149 F.3d 1350, 1359, 47 U.S.P.Q.2D (BNA) 1453, 1459 (Fed. Cir. 1998) (“the Board must identify specifically...the reasons one of ordinary skill in the art would have been motivated to select the references and combine them”); *In re Fritch*, 972 F.2d 1260, 1265, 23 U.S.P.Q.2D (BNA) 1780, 1783 (Fed. Cir. 1992) (examiner can satisfy burden of obviousness in light of combination “only by showing some objective teaching [leading to the combination]”); *In re Fine*, 837 F.2d 1071, 1075, 5 U.S.P.Q.2D (BNA) 1596, 1600 (Fed. Cir. 1988) (evidence of teaching or suggestion “essential” to avoid hindsight); *Ashland Oil, Inc. v. Delta Resins & Refractories, Inc.*, 776 F.2d 281, 297, 227 U.S.P.Q. (BNA) 657, 667 (Fed. Cir. 1985) (district court’s conclusion of obviousness was error when it “did not elucidate any factual teachings, suggestions or incentives from this prior art that showed the propriety of combination”). See also *Graham*, 383 U.S. at 18, 148 U.S.P.Q. (BNA) at 467 (“strict observance” of factual predicates to obviousness conclusion required). Combining prior art references without evidence of such a suggestion, teaching, or motivation simply takes the inventor’s disclosure as a blueprint for piecing together the prior art to defeat patentability--the essence of hindsight. See, e.g., *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1138, 227 U.S.P.Q. (BNA) 543, 547 (Fed. Cir. 1985) (“The invention must be viewed not with the blueprint drawn by the inventor, but in the state of the art that existed at the time.”). In this case the Board fell into the hindsight trap.

Applicant submits that in the present case the Examiners incorporation of displaceable pistons with Miller is the result of inappropriate hindsight analysis and not the result of an objective reason to combine the teachings of the references. For these reasons, Applicant respectfully requests withdrawal of the rejection of Claims 28 and 30-34.

Based upon the foregoing, Applicants believe that all pending claims are in condition for allowance and such disposition is respectfully requested. In the event that a telephone conversation

would further prosecution and/or expedite allowance, the Examiner is invited to contact the undersigned.

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